

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
29 September 2005 (29.09.2005)

PCT

(10) International Publication Number  
**WO 2005/090462 A1**

(51) International Patent Classification<sup>7</sup>: **C08L 3/02**,  
C08J 5/18

Zeist (NL). **THIEWES, Harm, Jan** [NL/NL]; Nico  
Bergsteijnweg 147, NL-3931 CC Woudenberg (NL).

(21) International Application Number:  
PCT/NL2005/000222

(74) Agent: **WINCKELS, J.H.F.**; Johan de Wittlaan 7,  
NL-2517 JR Den Haag (NL).

(22) International Filing Date: 24 March 2005 (24.03.2005)

(81) Designated States (*unless otherwise indicated, for every  
kind of national protection available*): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ,  
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,  
ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
04075924.3 24 March 2004 (24.03.2004) EP

(84) Designated States (*unless otherwise indicated, for every  
kind of regional protection available*): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,  
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): **NED-  
ERLANDSE ORGANISATIE VOOR TOEGEPAST-  
NATUURWETENSCHAPPELIJK ONDERZOEK  
TNO** [NL/NL]; Schoemakerstraat 97, NL-2628 VK Delft  
(NL).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **THORNTON,  
Jeffrey, Wilson** [US/NL]; Jagersweg 13, NL-1272 AL  
Huizen (NL). **SLAGHEK, Theodoor, Maximiliaan**  
[NL/NL]; Schansweg 35, NL-3042 HT Rotterdam (NL).  
**TIMMERMANS, Johannes, Wilhelmus** [NL/NL];  
Schoonenburg 188, NL-6714 GG Ede (NL). **JETTEN,  
Jan, Matthijs** [NL/NL]; Costerlaan 3 B, NL-3701 JL

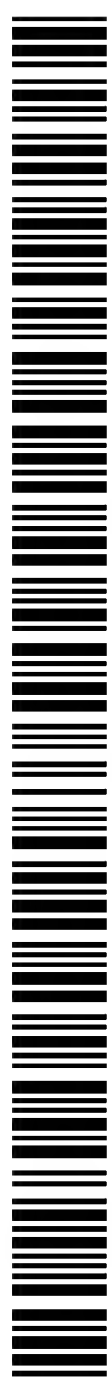
Published:

— with international search report

*For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.*

(54) Title: PROCESS DOR GELATINISING STARCH USING A BIODEGRADABLE POLYMER MATERIAL BEARING ALDEHYDE GROUPS

(57) Abstract: The invention provides a process wherein starch and/or a starch derivative can be gelatinised more efficiently by means a thermo mechanical treatment, when a carbohydrate polymer is used comprising aldehyde containing monomer units which comprise one or more aldehyde groups that are derived from one or more a primary alcohol groups. With this process a granulate or other semi-finished product can be obtained that can be shaped to produce an article that has excellent dimensional stability in water. The invention further provides a granulate, a shaped starch product, a food product or a blown starch film comprising such a carbohydrate polymer.



WO 2005/090462 A1